

REMARKS

Claims 1-22 and 29-38 are rejected under 35 U.S.C 101 as claiming the same invention as that of claims 1-32 in prior Patent No. 5986191. Claims 25-28 are objected to under 37 CFR 1.75 as being substantial duplicates of claims 23 and 24. Claims 23-28 are rejected under 35 U.S.C 101 as claiming the same invention as that of claims 7-12 in prior US Patent No. 5965831. Claims 23-28 and 39 are rejected under 35 U.S.C. 112, first paragraph, as based on a disclosure which is not enabling. The "gripping portion" and the "ring bearing" critical or essential to the practice of the invention, but not included in the claim(s) is not enabled by the disclosure. Claim 39 is rejected under 35 U.S.C 103(a) as being unpatentable over Matsui in view of Aaroe.

"Matsui does not teach the use specific use of a ring bearing assembly. Aaroe discloses the use of ring bearing assemblies supporting the base (column 2, lines 50-68).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the tremolo as taught by Matsui with ring bearings as taught by Aaroe in order to provide support."

In the applicant's BACKGROUND OF THE INVENTION, page 1, lines 16-18:

"Often the typical construction of the strings, particularly for guitar and bass, have a plain end and a "ball end" in which a washer-like addition is wrapped by the string itself as a means to help in securing the string to the instrument on the tailpiece. The wrapping is typically thicker than the rest of the string so the strings is substantially inextensible. The wrapping usually extends for at least a 1/2" towards the plain end and as such the tailpiece structure must insure that the wrapping does not extend over the second critical point when arranged on the instrument."

On page 2, lines 19-27, in regards to the first fulcrum tremolo, Fender U.S. Pat No. 2,741,146:

"The tailpiece is integrated into a spring block descending from the base plate into a cavity within the instrument body. Further, the bridge and the tailpiece move together as the tremolo is pivoted. The ball ends and wrapping of the strings are anchored into the recesses in the spring block furthestmost from the base plate. The strings being threaded through bores individual to each string over two inches in length within the spring block continuing out through the bottom of the base plate and over the bridge elements towards the nut. A singular aspect of the fulcrum tremolo is that the harmonic tuning is upset as the device is pivoted."

Further, on page 6, lines 10-12:

"Macro-tuners refer to tuners with the capacity to raise and adjust from an untensioned condition strings to proper playing pitch, providing for alternate tunings, and compensation for substantial string stretch during the life of the string without additional means."

In the SUMMARY OF THE INVENTION, page 9 line 6-15;

"Yet another object of the invention is to provide a fulcrum tremolo having alternate string anchoring points that are spaced apart from one another. One anchoring point is provided at the bottom of the spring block or spring blade so that the anchoring point is remote from the second critical point. The second anchoring point is located adjacent the second critical point so that the length of the string is between the second critical point and the string anchor is substantially shorter when the string is anchored at the second anchoring point than at the spring block anchoring point. Specifically, the second anchoring point is located a distance from the second critical point that is substantially equal to the length of the wrappings on the end of the strings."

And in THE DESCRIPTION OF THE DRAWINGS, page 17, line 19-26:

"The intonation module 170 is configured so that the distance from the outer surface 177 of the intonation module to the second critical point is approximately equal to the length of the wrapping of the string, the length of the wrapping being slightly less than the distance between the second critical point and the rearward surface of the intonation module. In this way, the wrapping of the string does not engage the second critical point. Further, the length of the string rearward of the second critical point is substantially inextensible."

In THE DESCRIPTION OF THE DRAWINGS, page 15, line 17-18:

"Referring now to Fig. 11, an alternate fulcrum tremolo 210 having a base plate 220 that incorporates an integral spring blade 240 is illustrated."

And on page 18, line 30 - page 19, line 1:

"The base plate 220 and spring blade are integrally formed from a single piece of material as follows. A single piece of plate material, such as 7/64" plate steel is provided. The plate is stamped to form the multiple tiers 221a-2."

On page 19, lines 14-24:

“The spring blade is formed by bending the portion of the plate between the two terminated slots vertically downwardly, so that the spring blade is transverse the base plate 220, projecting downwardly and forwardly toward the forward edge of the base plate. The width of the spring blade 240 is narrower than the width of the base plate 220 so that bending the plate to form the transverse spring blade, integral with the base plate The lower portion of the spring blade 241 is then bent transverse the upper portion of the spring blade, so that the lower portion 241 projects downwardly as shown in Fig 11, so that string passageway 242 aligns with the string holes 227 in base plate 220.”

And then page 19, line 30 – page 20, line 1:

“In this way, the tremolo base plate 220 is integrally formed with the spring blade 240 from a single piece of material, so that a single unitary component connects the tremolo to the spring that biases the tremolo against the tension in the instrument strings.”

In summary, the primary improvements to the anchoring of the strings and the biasing springs on a fulcrum tremolo are:

- a unitary base plate and spring block or spring blade arrangement formed from a single folded or bent metal plate so that the tremolo is connected directly to the biasing springs;
- such a folded construction includes multiple tiers stamped into the base plate portion for displacing the height of the second critical point on the intonation modules relative to the base plate;
- the folded spring blade is fashioned such that the openings for anchoring the ball ends of the strings are aligned or perpendicular to openings in the base plate for threading the strings through the intonation modules;
- that such intonation module include alternative means for receiving the ball ends and thereby anchoring the strings;
- and that this alternative means is located a distance from the second critical point essentially equal to the length of the windings at the ball end but not sufficient in length to engage the second critical point so as to render that portion of the string between the second critical point and the string anchor substantially inextensible.

There is no VERSION WITH MARKINGS TO SHOW CHANGES MADE since the amendments are completely rewritten.

Additionally please find below a completely rewritten Abstract of Disclosure.